

shooting upward. The maximum intensity occurred about 1.45 a. m., and the display disappeared about 2.25 a. m. Another aurora, extending from north to northeast and to altitude about 20°, was observed at Sault de Ste. Marie, Mich., about 1.15 a. m., 5th. It was of a light bluish tint, with several streamers. The display attained its maximum intensity about 2.05 a. m., and disappeared about 2.45 a. m. A third aurora, extending from north to northeast and to altitude 15°, was observed at Sault de Ste. Marie, Mich., at 12.45 a. m., 8th. It consisted of a pale diffused whitish light and continued until 3 a. m.

#### THUNDER-STORMS.

The more severe thunder-storms reported for the month are referred to under "Local storms."

Thunder storms were reported as follows: East of the Rocky Mountains thunder-storms were reported in the greatest number of states, 32, on the 17th; in 31 on the 3d; in 20 to 30 on the 1st, 2d, 4th, 6th, 9th to 12th, 14th to 16th, 18th to 22d, 26th, 28th, and 29th; in 10 to 19 on the 5th, 7th, 8th, 13th, 23d to 25th, 27th, and 30th. There were no dates for which

thunder-storms were reported in less than 10 states east of the Rocky Mountains.

East of the Rocky Mountains thunder-storms were reported on the greatest number of dates, 29, in Tex.; on 28 in Fla.; on 27 in Mo. and Nebr.; on 26 in La. and N. C.; on 20 to 25 in Ark., Ga., Ill., Iowa, Ky., Kans., Mich., Miss., Ohio, Pa., S. Dak., Tenn., Wis., and S. C.; on 10 to 19 in Ala., Ind., Md., Minn., N. J., N. Y., N. Dak., Va., W. Va., and Okla. T.; and on 1 to 9 in Conn., Del., D. C., Ind. T., Me., Mass., Mont., N. H., R. I., and Vt. West of the Rocky Mountains thunder-storms were reported as follows: Ariz., 25th to 27th, 29th, and 30th; Colo., 1st, 3d to 5th, 9th, 11th, 12th, 15th, 16th, 18th to 20th, and 23d to 30th; Idaho, 4th, 17th, 18th, 20th, and 26th; Nev., 24th; N. Mex., 4th, 5th, 11th to 13th, 15th, 22d, 25th to 27th, 29th, and 30th; Cal., 1st, 2d, 11th to 13th, 16th, 18th, 19th, 23d, and 24th; Oregon, 12th, 16th to 19th, 21st, 22d, and 24th; Utah, 3d, 12th to 14th, 18th, 24th, and 25th; Wash., 2d and 16th to 18th; Wyo., 1st, 3d, 9th, 12th, 14th, 18th, 20th, 25th, and 26th. There were no states and territories in which thunder-storms were not reported.

### VERIFICATIONS.

#### FORECASTS FOR 48 AND 72 HOURS IN ADVANCE.

Appreciating the great importance that long time predictions possess for the general public the Chief Signal Officer has authorized forecasts for 48 and 72 hours, covering the 2d and 3d days in advance. These are optional with the forecast official, and are only made when clearly in the public interest, and cover, in all cases, considerable areas of country, and are not confined to localities.

Percentages of verifications of forecasts made for second day in advance. Number of predictions made: weather, 181; temperature, 57. Percentages of verifications: weather, 86.4; temperature, 83.5; weather and temperature combined, 85.9.

Percentages of verifications of forecasts made for third day in advance. Number of predictions made, weather, 40. Percentage of verifications, 96.2.

#### WIND SIGNALS FOR JUNE, 1891.

Statement showing percentages of justifications of wind signals for the month of June, 1891.

*Wind signals*—(Ordered by Professor Cleveland Abbe.)—Total number of signals ordered, 20; justified as to velocity, 13; justified as to direction, 20. All of the signals ordered were cautionary; 17 signals were ordered for easterly winds, and 3 signals were ordered for westerly winds. Percentage of justifications, 41.5.

No cold-wave signals were ordered, and no temperature-fall warnings were issued during the month.

[Verifications made by Assistant Professor C. F. Marvin, assisted by Mr. H. E. Williams, chief clerk of the Forecast Division.]

#### FORECASTS FOR 24 HOURS IN ADVANCE.

The forecasts for districts east of the Rocky Mountains for June, 1891, were made by Professor Cleveland Abbe, Signal

Service, and those for the Pacific coast districts were made at San Francisco, Cal., by 2d Lieutenant John P. Finley, 19th Infantry.

*Percentages of forecasts verified, June, 1891.*

States.	Weather.	Temperature.	Weather and temperature combined.	States.	Weather.	Temperature.	Weather and temperature combined.
Maine .....	84.0	67.7	77.5	Arkansas .....	79.3	75.3	77.7
New Hampshire .....	81.0	68.7	76.2	Tennessee .....	78.0	75.3	76.9
Vermont .....	79.3	74.7	77.5	Kentucky .....	85.0	76.3	81.5
Massachusetts .....	86.0	75.7	81.9	Ohio .....	80.3	76.0	76.2
Rhode Island .....	86.7	72.0	80.5	West Virginia .....	86.7	79.7	83.9
Connecticut .....	89.0	77.3	84.3	Indiana .....	83.3	69.3	80.7
Eastern New York .....	84.3	79.3	82.3	Illinois .....	90.0	73.7	83.5
Western New York .....	82.3	72.0	78.2	Lower Michigan .....	79.3	67.3	74.5
Eastern Pennsylvania .....	90.7	75.3	84.5	Upper Michigan .....	79.3	67.3	74.5
Western Pennsylvania .....	78.0	75.0	76.5	Wisconsin .....	77.3	68.7	72.7
New Jersey .....	87.7	77.3	83.5	Minnesota .....	84.7	66.0	77.2
Delaware .....	87.3	78.3	83.7	Iowa .....	82.0	73.3	78.5
Maryland .....	84.7	73.7	80.3	Kansas .....	81.7	69.7	76.9
District of Columbia .....	83.3	70.0	78.0	Nebraska .....	81.0	72.3	77.5
Virginia .....	84.0	62.3	76.1	Missouri .....	82.0	75.0	79.2
North Carolina .....	86.0	61.3	74.9	Colorado .....	84.0	62.0	75.2
South Carolina .....	86.0	76.0	82.0	North Dakota .....	75.3	58.3	68.5
Georgia .....	86.7	72.3	80.9	South Dakota .....	81.7	72.7	78.1
Eastern Florida .....	89.7	83.3	87.1	Northern California .....	95.0	88.0	92.2
Western Florida .....	85.7	72.3	80.3	Southern California .....	99.0	93.0	96.6
Alabama .....	83.7	74.0	79.8	Oregon .....	85.7	83.0	84.6
Mississippi .....	82.0	68.3	76.5	Washington .....	80.7	83.7	81.9
Louisiana .....	79.0	69.0	75.0				
Texas .....	85.0	81.7	83.7	Monthly percentage ..	83.5	72.1	78.9

In determining the monthly percentage of weather and temperature combined, the Pacific coast states are not included. The forecasts of temperature in districts east of the Rocky Mountains for June, 1891, were made with reference to the maximum temperature alone; that is, a prediction of warmer or cooler indicated that the maximum temperature of the day designated would be higher or lower than the maximum of the previous day. The monthly percentage of weather and temperature combined is determined by multiplying the percentage of weather by 6, and the percentage of temperature by 4, and dividing their sum by 10.

### STATE WEATHER SERVICES.

*[Temperature in degrees Fahrenheit; precipitation, including melted snow, in inches and hundredths.]*

The following extracts and summaries are republished from reports for June, 1891, of the directors of the various state weather services:

#### ALABAMA.

*Temperature*.—Maximum, 104, at Wiggins, 28th; minimum, 41, at Camden, 19th; greatest monthly range, 53, at Camden; least monthly range, 17, at Chepultepec.

*Precipitation*.—The average was 0.42 below the normal; greatest monthly 8.65, at Valley Head; least monthly, 2.02, at Marion.

*Wind*.—Prevailing direction, south.—P. H. Mell, Auburn, director, State Weather Service, and observer, Signal Service.

#### ARKANSAS.

*Temperature*.—The mean was 1.2 above the normal; maximum, 103, at Lead Hill, 27th; minimum, 56, at Fayetteville, 9th, and at Rogers, 19th; greatest monthly range, 46, at Lead Hill; least monthly range, 19, at Winslow.

**Precipitation.**—The average was 0.20 below the normal; greatest monthly, 6.62, at Lead Hill; least monthly, 0.62, at Prescott.

**Wind.**—Prevailing direction, southwest.—*M. F. Locke, Commissioner of Agriculture, Little Rock, director; F. H. Clarke, Sergeant, Signal Corps, assistant.*

### COLORADO.

**Temperature.**—The mean was about 3.0 below the normal; maximum, 98, at Las Animas, 23d; minimum, 3, at Breckenridge, 2d; greatest monthly range, 78, at Breckenridge; least monthly range, 45, at Moraine.

**Precipitation.**—The average was about the normal, except in the northeast and extreme southeast counties, where it was in excess; greatest monthly, 7.38, at Leslie; least monthly, 0.00, at Montrose (near).—*W. S. Miller, Sergeant, Signal Corps, Denver, assistant.*

### ILLINOIS.

**Temperature.**—The mean was 1.5 above the normal; maximum, 102, at McLeansborough, 27th; minimum, 41, at Riley, 5th.

**Precipitation.**—The average was 0.61 below the normal; greatest monthly, 6.83, at Lacon; least monthly, 1.55, at Martinsville.

**Wind.**—Prevailing direction, southeast.—*John Craig, Sergeant, Signal Corps, Springfield, in charge.*

### INDIANA.

**Temperature.**—Maximum, 101, at Muncie, 15th; minimum, 44, at Valparaiso, 4th; greatest monthly range, 48, at Mauzy; least monthly range, 26, at Butlerville.

**Precipitation.**—Greatest monthly, 8.66, at Vevay; least monthly, 1.53, at Rockville.

**Wind.**—Prevailing direction, south.—*Prof. H. A. Huston, La Fayette, director; C. F. R. Wappenhans, Sergeant, Signal Corps, assistant.*

### IOWA WEATHER AND CROP SERVICE.

**Temperature.**—The mean was about normal; maximum, 99, at Indianola, 24th; minimum, 37, at Hampton, 4th; greatest monthly range, 60, at Indianola; least monthly range, 37, at Independence.

**Precipitation.**—The average was slightly below the normal; greatest monthly, 19.88, at Larrabee; least monthly, 1.68, at Hopkinton.

**Wind.**—Prevailing direction, south.—*J. R. Sage, Des Moines, director; G. M. Chappel, Observer, Signal Service, assistant.*

### KANSAS.

**Temperature.**—The mean was deficient in all counties; maximum, 100, at Collyer, 23d, at Lakin, 25th, and at Macksville, 28th; minimum, 37, at Tribune, 4th; greatest monthly range, 61, at Lakin; least monthly range, 34, at Altoona.

**Precipitation.**—The average was 3.21 above the normal; greatest monthly, 14.70, at Marmaton; least monthly, 2.32, at Weskan.

**Wind.**—Prevailing direction, south.—*Prof. J. T. Lovewell, Topeka, director; T. B. Jennings, Sergeant, Signal Corps, assistant.*

### KENTUCKY.

**Temperature.**—The mean was slightly in excess of the normal; maximum, 97, at Princeton and Bowling Green, 3d, and at Harrodsburgh and Earlington, 26th; minimum, 51, at Harrodsburgh, 1st; greatest monthly range, 46, at Harrodsburgh; least monthly range, 29, at Canton and Richmond.

**Precipitation.**—The average was nearly normal; greatest monthly, 7.90, at Middleborough; least monthly, 2.00, at Louisville.

**Wind.**—Prevailing direction, northeast.—*Dr. E. A. Grant, Louisville, director; Frank Burke, Sergeant, Signal Corps, assistant.*

### LOUISIANA.

**Temperature.**—Maximum, 103, at Liberty Hill, 28th; minimum, 52, at Houma, 2d; greatest monthly range, 47, at Winnsborough; least monthly range, 21, at Port Eads.

**Precipitation.**—The rainfall was slightly deficient in both sections of the state; greatest monthly, 8.46, at Paincourtville; least monthly, 0.31, at Delhi.

**Wind.**—Prevailing direction, south.—*George E. Hunt, Sergeant, Signal Corps, New Orleans, in charge.*

### MARYLAND.

**Temperature.**—Maximum, 104, at Kirkwood, Del., 16th; minimum, 46, at Frederick, 8th and 9th; greatest monthly range, 47, at Baltimore and Frederick; least monthly range, 35, at Barren Creek Springs.

**Precipitation.**—Greatest monthly, 7.69, at Cumberland; least monthly, 1.85, at Barren Creek Springs.

**Wind.**—Prevailing direction, southwest.—*William B. Clark, Johns Hopkins University, director; Milton Whitney, Maryland Agricultural College, secretary and treasurer; C. P. Cronk, Sergeant, Signal Corps, in charge.*

### MICHIGAN.

**Temperature.**—The mean was 0.2 above the normal of the last 15 years; maximum, 98, at Bangor and Ivan, 15th; minimum, 21, at Roscommon, 5th; greatest monthly range, 73, at Roscommon; least monthly range, 41, at Atlantic.

**Precipitation.**—The average was 1.23 below the normal of the last 15 years; greatest monthly, 5.84, at Kalamazoo; least monthly, 0.55, at Sand Beach.

**Wind.**—Prevailing direction, east.—*N. B. Conger, Sergeant, Signal Corps, Lansing, director.*

### MINNESOTA.

**Temperature.**—The mean was slightly below the normal; maximum, 97, at

Crookston, 18th; minimum, 20, at Pokegama Falls, 5th; greatest monthly range, 68, at Pokegama Falls; least monthly range, 38, at Saint Charles.

**Precipitation.**—The average was slightly above the normal in the western and southeast portions, and slightly deficient elsewhere; greatest monthly, 8.44, at Alma City; least monthly, 2.67, at Duluth.

**Wind.**—Prevailing direction, southeast.—*W. L. Moore, Observer, Signal Service, Minneapolis, in charge.*

### MISSISSIPPI.

**Temperature.**—The mean was 1.4 above the normal; maximum, 106, at Enterprise, 28th; minimum, 54, at Macon, 9th and 12th; greatest monthly range, 48, at Macon; least monthly range, 20, at Bay Saint Louis.

**Precipitation.**—The average was 0.60 above the normal; greatest monthly, 10.60, at Bay Saint Louis; least monthly, 0.18, at Lake.—*R. B. Fulton, Signal Corps, University, director.*

### MISSOURI.

**Temperature.**—The mean was about normal; maximum, 103, at Protem, 27th; minimum, 46, at Adrian, 4th.

**Precipitation.**—The average was about 2.00 above the normal, there being a slight deficiency in the extreme east part, and an excess in the central and northwest parts; greatest monthly, 23.90, at California; least monthly, 3.29, at Glasgow.—*Levi Chubbuck, Secretary of State Board of Agriculture, Columbia, director; A. L. McRae, Sergeant, Signal Corps, assistant.*

### NEBRASKA.

**Temperature.**—The mean was about 2.0 below the normal; maximum, 97, at Weeping Water; minimum, 42, at Long Pine.

**Precipitation.**—Except in a small area in the western and northwestern parts of the state, the precipitation was greater than ever before reported; greatest monthly, 15.50, at West Point; least monthly, 2.70, at Hay Springs.—*Prof. Goodwin D. Swezey, Crete, director; G. A. Loveland, Sergeant, Signal Corps, assistant.*

### NEVADA.

**Temperature.**—The mean was 4.4 below the normal; maximum, 97, at Soda-ville, 30th; minimum, 8, at Belmont, 1st.

**Precipitation.**—The average was 0.70 above the normal; greatest monthly, 2.77, at Beowawe; least monthly, 0.00, at Hot Springs.

**Wind.**—Prevailing direction, southwest.—*Prof. Charles W. Friend, Carson City, director; F. A. Carpenter, private, Signal Corps, assistant.*

### NEW ENGLAND METEOROLOGICAL SOCIETY.

**Temperature.**—The mean was 0.9 below the normal; maximum, 99, at Lawrence, Taunton (d), Westborough, and North Grosvenor Dale, 16th; minimum, 27, at Berlin Falls, 5th and 6th; greatest monthly range, 67, at Florida (a); least monthly range, 33, at Nantucket and Block Island.

**Precipitation.**—The average was 0.25 below the normal; greatest monthly, 6.04, at Northampton; least monthly, 0.70, at Kingston (b).

**Wind.**—Prevailing direction, west.—*Prof. William H. Niles, Boston, Mass., president; Prof. Winslow Upton, Providence, R. I., secretary; J. Warren Smith, Private, Signal Corps, assistant.*

### NEW JERSEY.

**Temperature.**—The mean was 0.3 below the normal; maximum, 102, at Tenafl, 16th; minimum, 38, at Hanover, 8th; greatest monthly range, 59, at Tenafl; least monthly range, 42, at Asbury Park.

**Precipitation.**—The average was 1.06 below the normal; greatest monthly, 6.71, at Imlaystown; least monthly, 1.24, at Cape May C. H.

**Wind.**—Prevailing direction, southwest.—*E. W. McGann, Sergeant, Signal Corps, New Brunswick, in charge.*

### NEW YORK.

**Temperature.**—Maximum, 99, at Poughkeepsie, 16th; minimum, 27, at Keene Valley, 5th; greatest monthly range, 69, at Keene Valley; least monthly range, 37, at Lyon Mountain.

**Precipitation.**—Greatest monthly, 5.95, at Humphrey; least monthly, 0.20, at White Plains.—*Prof. E. A. Fuertes, Dean of the College of Civil Engineering, Cornell University, director; R. M. Hardinge, Private, Signal Corps, assistant.*

### NORTH CAROLINA.

**Temperature.**—The mean was 0.5 above the normal of the last 20 years; maximum, 102, at Cheraw, 17th; minimum, 42, at Franklin, 2d; greatest monthly range, 48, at Franklin and Douglas; least monthly range, 24, at Hatteras.

**Precipitation.**—The average was 1.25 below the normal of the last 20 years; greatest monthly, 7.58, at Chattanooga, Tenn.; least monthly, 1.40, at Franklin.

**Wind.**—Prevailing direction, southwest.—*Dr. Herbert B. Battle, Raleigh, director; C. F. von Herrmann, Sergeant, Signal Corps, assistant.*

### NORTH AND SOUTH DAKOTA.

**Temperature.**—The mean was about 1.0 below the normal; maximum, 98, at Saint Lawrence, S. Dak., 13th, and at Lakota, N. Dak., 14th; minimum, 20, at Oelrichs, S. Dak., 3d; greatest monthly range, 74, at Oelrichs, S. Dak.; least monthly range, 36, at Wild Rice, N. Dak.

**Precipitation.**—The average was 1.27 above the normal; greatest monthly, 9.28, at Kimball, S. Dak.; least monthly, 1.08, at Onida, S. Dak.

Wind.—Prevailing direction, southeast.—S. W. Glenn, Sergeant, Signal Corps, Huron, S. Dak., in charge.

## OHIO.

Temperature.—The mean was 2.0 above the normal; maximum, 98, at Waverly, 14th and 26th; minimum, 49, at Wauseon, 5th.

Precipitation.—The average was 0.87 above the normal; greatest monthly, 10.83, at Canton; least monthly, 2.28, at Montpelier.—Prof. B. F. Thomas, Columbus, director; C. M. Strong, Sergeant, Signal Corps, secretary and assistant.

## OREGON.

The marked characteristics of the month were the excess in rainfall and the deficiency in temperature.

Temperature.—The mean was 2.4 below the normal; maximum, 96, at Grant's Pass, 29th; minimum, 25, at Silver Lake, 9th.

Precipitation.—The average was 1.89 above the normal; at The Dalles 0.51 of rain fell, and there was from 1.00 to 5.00 reported in other parts of the state.

Wind.—Prevailing direction, southwest.—Hon. H. E. Hayes, Master State Grange, Portland, director; B. S. Pague, Sergeant, Signal Corps, assistant.

## PENNSYLVANIA.

Temperature.—The mean was about normal; maximum, 100, at Hamburg, 17th; minimum, 80, at Selin's Grove, 7th; greatest monthly range, 69, at Selin's Grove; least monthly range, 84, at Kennett Square.

Precipitation.—The average was about 0.50 above the normal; greatest monthly, 9.30, at Swarthmore; least monthly, 1.22, at Erie.

Wind.—Prevailing direction, west.—Under direction of the Franklin Institute, Philadelphia; T. F. Townsend, Observer, Signal Service, assistant.

## TENNESSEE.

The month was characterized by the large amount of rainfall, electrical disturbances, and the high temperature of the first and last parts of the month.

Temperature.—The mean was about 3.0 above the normal; maximum, 100, at Hohenwald, 3d and 4th, and at Union City, 4th; minimum, 55, at Johnson City, Andersonville, and Austin, 1st; greatest monthly range, 41, at Austin; least monthly range, 22, at McKenzie.

Precipitation.—The average was slightly above the normal; greatest monthly, 9.85, at Waynesborough; least monthly, 1.20, at Bolivar.

Wind.—Prevailing directions, south and southwest.—J. D. Plunket, M. D., Nashville, director; H. C. Bate, Signal Corps, assistant.

## TEXAS.

Temperature.—The mean was from 1 to 2 below the normal over the southeast and northwest parts of the state; elsewhere it was above the normal; maximum, 108, at Roby, 20th, and at Graham, 19th; minimum, 52, at El Paso, 2d; greatest monthly range, 49, at Graham; least monthly range, 21, at Galveston.

Precipitation.—The average was below the normal, except over the Panhandle and northwest parts of the state, where it was about 1.00 in excess; greatest monthly, 12.25, at Quanah; least monthly, 0.26, at Brownsville.—D. D. Bryan, Galveston, director; I. M. Cline, Sergeant, Signal Corps, assistant.

## WISCONSIN.

Temperature.—The mean was 1.0 above the normal; maximum, 102, at Berlin, 25th; minimum, 25, at Florence, 5th.

Precipitation.—The average was 0.80 below the normal; greatest monthly, 7.61, at Hammond; least monthly, 0.64, at Florence.—R. E. Kerkam, Sergeant, Signal Corps, Milwaukee, in charge.

Meteorological record of Army post surgeons, voluntary, and other co-operating observers, June, 1891.

Stations.	Temperature. (Fahrenheit.)				Precip'n.	Stations.	Temperature. (Fahrenheit.)				Precip'n.
	Max.	Min.	Mean.				Max.	Min.	Mean.		
Alabama.	0	0	0	Ins.		Alabama—Cont'd.	0	0	0	Ins.	
Bermuda *†	97	65	75.9	8.62		Mountain Home	96	57	75.7	7.97	
Bessemer	95	58	77.6	4.35		Mt. Vernon B'ks	100	65	80.9	4.57	
Brewton	103	60	81.6	6.70		Opelika	100	62	85.6	4.76	
Camden	94 1/2	41	85.4d	6.53		Pine Apple	100	64	81.2	2.80	
Chepaltepec	82	65	74.1			Pushmataha	97	63	80.9	3.26	
Childersburgh				7.40		Selma (2)	100	63	82.6	2.67	
Citronelle	100	66	82.2	4.43		Surdevant				7.43	
Clairborne Landing				6.50		Talladega				4.37	
Columbiana	98	59	80.6	5.14		Tallasse Falls				4.83	
Cordova				5.49		Tuscaloosa				6.35	
Decatur (1) †				5.24		Tuscumbia (2)	96	62	78.0	3.03	
Decatur (2)	98	62	78.3	5.00		Union Springs	97	66	79.8	4.85	
Eufaula	96	65	78.8	5.81		Valley Head	95	56	75.3	8.67	
Evergreen	100	62	80.6	4.33		Warrior				4.64	
Fayette C. H.	95	65	79.7	4.70		Wiggins	104	56	82.6	3.55	
Florence				4.76							
Fort Deposit	102	66	82.2	3.05		Juneau	82	40	55.2	2.22	
Goodwater	96	62	79.1	3.75		Killisnoo	74	38	50.1	0.40	
Greensborough	97	70	82.8	3.61							
Guntersville	93	50	70.8	2.56		Arizona.					
Jasper	94	55	76.5	4.98		Ariz. Canal Co. Dam	116	49	82.8	0.00	
Livingston (1) *†	98	65	77.8	2.50		Buckeye				0.00	
Livingston (2)	100	62	79.8	4.76		Calabasas				2.55	
Marion	100	60	79.2	2.02		Chiricahua Mt				0.70	
						Cooleys	91	32	58.8	0.24	

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
Arizona—Cont'd.					California—Cont'd.				
Dos Cabezos †	0	0	0	Ins.	Susanville	89	47	60.0	Ins.
Dragoon				0.00	Upper Mattole	106	51	61.3	2.00
Dudleyville				0.15	Vacaville (1) *	112	54	71.2	0.17
Eagle Pass		57	72.2	0.25	Volta *	110	59	75.5	T.
Farley's Camp			81.4	0.00	Walla Walla Ck.	94	34	57.9	0.99
Florence	115	49	80.6	T.	Walnut Creek	112	47	69.0	0.09
Fort Apache	95	37	65.7	T.	Wheatland	112	49	70.8	0.16
Fort Bowie	96	50	75.0	T.	Willow (1)	108	45	71.2	0.25
Fort Grant	95	49	73.0	0.10	Yreka	98	34	60.3	1.36
Fort Huachuca	98	47	72.0	0.18	Colorado.				
Fort Mohave	121	56	84.1	0.00	Abbott †				5.87
Gila Bend (1) *	106	66	86.8		Agate *	94	48	64.6	1.75
Grand Central Mill				0.21	Akron* †	92	47	64.5	6.55
Holbrook †	96	31	65.0	0.00	Alma †	72	25	47.1	0.15
Mount Huachuca	99	47	73.6	1.69	Amherst †				0.10
Natural Bridge				0.00	Antonito	86	31	63.0	0.30
Oro				0.00	Apishapat	80	44	62.8	1.60
Payson				0.25	Arboles †				0.63
Red Rock				0.25	Aroya				0.80
Saint Johns				0.06	Beaver Creek †				1.09
San Carlos	116	45	78.1	0.00	Bennet *	99	43	54.2	3.20
Show Low †				0.50	Box Elder †				1.83
Signal †	113	50	80.6	0.00	Brandon				0.97
Simmons				0.00	Breckenridge †	81	3	41.0	0.10
Strawberry				0.31	Brush †				4.23
Tevison				0.00	Burlington †	96	27	54.4	1.27
Tip Top †			82.1	0.00	Byers *	89	42	65.6	3.62
Tucson (1) †	109	56	81.6	0.27	Canon City †	96	44	71.3	0.78
Walnut Grove				0.00	Carson †	75	36	50.8	0.21
Walnut Ranch				0.29	Castle Rock †	92	37	64.3	4.36
Whipple Barracks	98	33	64.0	0.00	Cheyenne Wells	96	49	66.9	2.32
Willow				0.30	Climax* †	68	24	43.6	0.85
Wood Canyon				1.00	Como (near)	72	21	47.9	0.36
Woodruff				0.00	Crook	90	49	64.6	3.90
Arkansas.					Cumbres	74	23	47.1	1.35
Arkadelphia †				5.82	Deer Trail *	90	46	64.1	
Arkansas City †				2.89	Delta †	91	37	64.8	0.25
Brinkley	99	64	79.4	4.26	Dillon †				0.92
Camden †	96	64	78.2	2.69	Downing				0.39
Conway	91	65	76.2	6.71	Dumont †				1.51
Dallas	94	60	75.4	2.87	First View *	88	48	65.4	2.19
Dardanelle				4.20	Fort Collins	87	38	61.0	1.31
Devall Bluff	98	60	79.0	3.38	Fort Lewis	81	27	55.2	0.24
El Dorado	92	55	75.2	1.25	Fort Logan	87 1/2	35	61.6	3.04
Fayetteville* †	92	56	73.0	5.07	Fruita	96	38	68.6	0.07
Forrest City †	96	53	79.6	4.13	Garnett				0.66
Fulton †				1.39	Georgetown.	81	32	56.1	0.74
Harrisburg	54	65	76.6	2.98	Granada				2.51
Helena (1)				4.22	Greenhorn †	87	41	61.8	2.50
Helena (2)	100	64	81.0	4.06	Grover				2.66
Hot Springs	98	57	76.9	5.16	Haxtum †				6.11
Lead Hill *	103	57	77.6	6.62	Hugo *	86	40	64.9	2.00
Lonoke	100	57	81.6	3.50	Husted †	91	36	61.4	1.64
Malvern	98	64	79.6	2.68	Idaho Springs †	85	34	54.8	2.58
Monticello	98	62	81.2	3.61	Kit Carson *	98	49	67.2	1.31
Mount Nebo	89	60	74.0	2.87	La Porte				1.60
New Gascony				3.35d	Las Animas †	98	42	68.2	1.10
Newport (1) †				7.65	Lavender				0.24
Newport (2)	101	62	79.2	6.13	Le Roy* †	85	41	62.5	4.84
Osceola	94	65	77.8	3.91	Leslie				7.33
Ozone	90	60	72.6	4.95	Livermore †	82	30	57.5	1.76
Paragould	100	62	79.0	4.85	Longmont *	87	42	62.4	5.04
Pine Bluff	98	64	81.2	2.09	Magnolia* †	94	48	64.6	1.90
Prescott	96	68	79.6	0.62	Meeker †	95	34	60.1	0.20
Rogers †	94	56	73.4	3.91	Minneapolis †				4.42
Stuttgart	97	61	78.7	3.91	Monte Vista (2)	84	32	59.0	0.73
Texasarkana	96	59	80.6	3.17	Montrose (near)				0.00
Washington	93	66	78.4	1.65	Moraine	76	31	52.6	1.10
Winslow	81	62	72.2	5.39	Pagoda (near) *	89	26	57.2	0.20
California.					Pagosa Springs.	88	38	57.2	0.47
Alcatraz Island	95	48	58.8	0.39	Parachute †	91	41	68.2	0.16
Anderson	108	55	77.6	1.09	Red Cliff †				0.37
Angel Island	91	37	60.0	0.54	Rico* †				0.64
Barstow	106	50	73.9	0.00	River Bend *	84	48	64.8	
Benicia Barracks	109	49	67.2	0.07	Rocky Ford †	95	43	68.4	2.05
Berkeley	101	46	61.5	0.38	Saint Cloud †				1.40
Centerville *	108	56	69.3	0.06	Sanborn †				2.77
Claremont †	100	47	69.0	T.	San Luis †	90	35	61.8	1.25
Crescent City				4.20	Sedgwick				4.53
Evergreen				0.07	Sheridan Lake* †	95	49	68.8	1.30
Fort Bidwell	90	29	55.4	2.73	Smoky Hill Mine †	84	35	56.3	2.54
Fort Gaston	109	37	61.8	1.62	Springfield				5.13
Fort Mason	94	45	59.3	0.10	Stamford †				0.96
Georgetown.	99	38	62.4	2.22	Thon †	95	37	61.4	3.03
Grass Valley				1.27	Twin Lakes.				0.50
Hydesville	81	38	58.0	1.45	Villas				3.41
Iowa Hill *	102	52	65.9	2.13	Villa Grove †	95	31	61.8	0.73
Jolon	115			T.	Ward District †				2.40
Julian †	100	38	66.2	0.00	Waterville †				3.90
Los Gatos (2)	100	42	70.0	0.11	Watkins	78	48	60.2	0.50
National City	90	50	65.0	0.09	Wray				4.55
Oakland (1)	99	45	60.4	0.11	Yuma †				5.23
Palermo †	107	49	73.9	0.16	Connecticut.				
Presidio of San F.	97	38	58.2	0.15	Canton	97	37	67.2	3.11
Riverside (1)	102	47	67.6	0.00	Colchester	93	38	65.8	
Riverside (2)	100	45	68.6		Falls Village				3.62
Sacramento (1)	98	42	65.7	0.08	Fort Trumbull	93	44	67.6	2.32
Salinas (1) *	87 d	48	65.7f		Hartford (1)	95	37	66.2	2.13
San Diego B'ks	80	53	65.9	0.08	Hartford (2)				2.08
Santa Barbara (1)	84	47	62.4	0.00	Lake Konomoc				2.71
Santa Clara				0.05	Lebanon				2.29
Santa Cruz (2) *	92	42	63.5	0.10	Mansfield	92	39	63.9	1.84
Santa Maria				0.10	Middletown	96	42	66.0	2.70
Sonoma	102	45	64.9	0.18	New Hartford (1) *	94	42	63.2	4.25
Steelest	90	43	63.6	0.15	New Hartford (2)				3.62